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Indiana Michigan Power
Cook Nuclear Plant
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Bridgman, MI 49106
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November 7, 2011

AEP-NRC-2011-65
10 CFR 50.73

Docket No. 50-315

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Unit 1
LICENSEE EVENT REPORT 315/2011-001-00
REACTOR TRIP DUE TO MAIN TURBINE TRIP

In accordance with the criteria established by 10 CFR 50.73, Licensee Event Report System, the following report is being submitted:

LER 315/2011-001-00: "Reactor Trip Due to Main Turbine Trip."

There are no commitments contained in this submittal.

Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Manager, at (269) 466-2649.

Sincerely,

Joel P. Gebbie
Site Vice President

JEN/jen

Enclosure

c: J. T. King – MPSC, w/o enclosure
S. M. Krawec – AEP Ft. Wayne, w/o enclosure
MDEQ – WHMD/RPS, w/o enclosure
NRC Resident Inspector
M. A. Satorius – NRC Region III
P. S. Tam – NRC Washington DC

NRC Form 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES 10/31/2013

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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4. TITLE

Unit 1 Reactor Trip Due To Main Turbine Trip

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
09	07	2011	2011	- 001 -	00	11	07	2011	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Michael K. Scarpello, Regulatory Affairs Manager	(269) 466-2649

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If Yes, complete 15. EXPECTED SUBMISSION DATE).* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On September 07, 2011, at 0854 hours, Donald C. Cook Nuclear Plant (CNP) Unit 1 Reactor tripped automatically due to a trip of the main turbine. All control rods fully inserted and the auxiliary feedwater system (AFW) started and performed as designed.

The reactor trip was uncomplicated and all major plant components functioned as designed; as such, there were no safety system functional failures. The reactor trip was reported in accordance with 10 CFR 50.72(b)(2)(iv)(B) and the AFW actuation was reported in accordance with 10 CFR 50.72(b)(3)(iv)(A). The reactor trip and AFW actuation are reportable as a Licensee Event Report (LER) in accordance with 10 CFR 50.73(a)(2)(iv)(A).

The main turbine tripped due to an automatic turbine trip signal generated by the main turbine thrust bearing wear detection system. The initial investigation has concluded that there was no actual thrust bearing wear condition. The cause of the inadvertent trip signal has been determined to be a result of inadequate installation of sensing equipment. This inadequate installation resulted in a spurious trip signal common to both channels. Corrective actions have been taken to correct the installation.

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NARRATIVE

Conditions Prior to Event

100 percent reactor power.

Description of Event

On September 07, 2011, at 0854 hours, Donald C. Cook Nuclear Plant (CNP) Unit 1 Reactor [AC] tripped automatically due to a trip of the main turbine [TRB]. All control rods [AA] fully inserted and the auxiliary feedwater system (AFW) [BA] started and performed as designed.

The reactor trip was uncomplicated and all major plant components functioned as designed; as such, there were no safety system functional failures. The reactor trip was reported in accordance with 10 CFR 50.72(b)(2)(iv)(B) and the AFW actuation was reported in accordance with 10 CFR 50.72(b)(3)(iv)(A). The reactor trip and AFW actuation are reportable as a Licensee Event Report (LER) in accordance with 10 CFR 50.73(a)(2)(iv)(A).

Cause of Event

The main turbine tripped due to an automatic turbine trip signal generated by the main turbine thrust bearing wear detection system [JJ]. The initial investigation has concluded that there was no actual thrust bearing wear condition. The cause of the inadvertent trip signal has been determined to be a result of inadequate installation of sensing equipment. This inadequate installation resulted in a spurious trip signal common to both channels. Corrective actions have been taken to correct the installation. A Root Cause Evaluation (RCE) is in progress, and a supplement to this LER will be submitted following the evaluation if results are substantially different than what is being reported here.

Analysis of Event

The event is not considered to be risk significant as there were no risk significant equipment failures to pose elevated risk. It is recognized that there was an actuation of a main turbine protective circuit; subsequently, all systems responded as designed.

Based on review of the control room log and Plant Process Computer [CPU] information, along with the post-trip review from which the information above was obtained, all plant systems performed as designed to shut down the unit and remove decay heat. No risk-significant equipment functions were affected or failed and no significant operator actions outside those required for normal trips were required.

Corrective Actions

Completed Corrective Actions

The following corrective actions were taken to correct the installation inadequacy:
The thrust probes have been routed through separate conduits to provide circuit separation.
The thrust probe connectors have been sealed to keep lubricating oil out.
The thrust probe cabling in the junction boxes has been wrapped with an EMI (Electro Magnetic Interference) mesh tape to protect circuits from cross-communication interference.

Planned Corrective Actions

None.

Previous Similar Events

LERs for CNP Unit 1 and Unit 2 for the past three years were reviewed for similar events. While there have been manual reactor trips, there have been no automatic reactor trips due to actuation of main turbine trip circuitry.